



[illegible]

[illegible]

sau3AI  
 mboI  
 dpnI  
 xhoII  
 bstYI  
 bglII  
 aluI  
 bstXI  
 nlaIV  
 910 TTC CAG CTC TTT GGC TCC CCT AGT GGG CAG AAA GAT CTG CTG TTC AAG  
 286 Phe Gln Leu Phe Gly Ser Pro Ser Gly Gln Lys Asp Leu Leu Phe Lys

nlaIV  
 hgiCI  
 pleI  
 hinfI  
 mnII bsp1286 mnII  
 taqI banI auaI hinfI  
 958 GAC TCT GCC ATT GGG TTT TCG AGG GTG CCC CCG AGG ATA GAT TCT GGG  
 302 Asp Ser Ala Ile Gly Phe Ser Arg Val Pro Pro Arg Ile Asp Ser Gly

mspI  
 hpaII  
 styl  
 rsaI nlaIV fokI mnII  
 1006 CTG TAC CTT GGC TCC GGC TAC TTC ACT GCC ATC CAG AAC TTG AGG AAA  
 318 Leu Tyr Leu Gly Ser Gly Tyr Phe Thr Ala Ile Gln Asn Leu Arg Lys

mspI  
 hpaII  
 scrFI  
 nciI  
 mnII  
 fnu4HI  
 bbvI cauII  
 hinPI  
 hhaI  
 1054 AGT GAG GAG GAA GTG GCT GCC CGG CGT GCG CGG GTC GTG TGG TGT GCG  
 344 Ser Glu Glu Glu Val Ala Ala Arg Arg Ala Arg Val Val Trp Cys Ala

hinPI  
 nstI  
 fspI  
 fnu4HI  
 aluI hhaI  
 alwNI bbvI  
 bstXI  
 bsrI  
 1102 GTG GGC GAG CAG GAG CTG CGC AAG TGT AAC CAG TGG AGT GGC TTG AGC  
 350 Val Gly Glu Gln Glu Leu Arg Lys Cys Asn Gln Trp Ser Gly Leu Ser

fnu4HI  
 bbvI  
 bspMI  
 mnII haeIII  
 mnII sfaNI  
 1150 GAA GGC AGC GTG ACC TGC TCC TCG GCC TCC ACC ACA GAG GAC TGC ATC  
 366 Glu Gly Ser Val Thr Cys Ser Ser Ala Ser Thr Thr Glu Asp Cys Ile

scrFI  
 ecoRII  
 bstNI  
 bstXI  
 aluI sfaNI nlaIII fokI mnII  
 1198 GCC CTG GTG CTG AAA GGA GAA GCT GAT GCC ATG AGT TTG GAT GGA GGA  
 382 Ala Leu Val Leu Lys Gly Glu Ala Asp Ala Met Ser Leu Asp Gly Gly

FIG.-1D

nlaIII sphI nlaIV scrFI  
hgiCI ecorII  
rsal nspCIx banI bstNI  
1246 TAT GTG TAC ACT GCA TGC AAA TGT GGT TTG GTG CCT GTC CTG GCA GAG  
398 Tyr Val Tyr Thr Ala Cys Lys Cys Gly Leu Val Pro Val Leu Ala Glu  
sau3AI  
mboI  
dpmI  
alwI  
1294 AAC TAC AAA TCC CAA CAA AGC AGT GAC CCT GAT CCT AAC TGT GTG GAT  
414 Asn Tyr Lys Ser Gln Gln Ser Ser Asp Pro Asp Pro Asn Cys Val Asp  
sau3AI  
mboI  
dpmI  
ecoNI ecoRV  
1342 AGA CCT GTG GAA GGA TAT CTT GCT GTG GCG GTG GTT AGG AGA TCA GAC  
430 Arg Pro Val Glu Gly Tyr Leu Ala Val Ala Val Val Arg Arg Ser Asp  
scrFI  
ecoRII  
bstNI  
1390 ACT AGC CTT ACC TGG AAC TCT GTG AAA GGC AAG AAG TCC TGC CAC ACC  
446 Thr Ser Leu Thr Trp Asn Ser Val Lys Gly Lys Lys Ser Cys His Thr  
haeIII  
nlaIII  
styI sau96I mboII  
ncoI asuI earI  
1438 GCC GTG GAC AGG ACT GCA GGC TGG AAT ATC CCC ATG GGC CTG CTC TTC  
462 Ala Val Asp Arg Thr Ala Gly Trp Asn Ile Pro Met Gly Leu Leu Phe  
nlaIV  
hgiIII  
bsp1286  
banII  
sspl  
aluI bsp1286  
1486 AAC CAG ACG GGC TCC TGC AAA TTT GAT GAA TAT TTC AGT CAA AGC TGT  
478 Asn Gln Thr Gly Ser Cys Lys Phe Asp Glu Tyr Phe Ser Gln Ser Cys  
sau3AI  
mboI  
dpmI  
scrFI  
ecoRII  
bstNI  
xhoII  
bstYI  
hgiAI  
bsp1286  
1534 GCC CCT GGG TCT GAC CCG AGA TCT AAT CTC TGT GCT CTG TGT ATT GGC  
484 Ala Pro Gly Ser Asp Pro Arg Ser Asn Leu Cys Ala Leu Cys Ile Gly

hphI bsp1286  
 1582 GAC GAG CAG GGT GAG AAT AAG TGC GTG CCC AAC AGC AAT GAG AGA TAC  
 510 Asp Glu Gln Gly Glu Asn Lys Cys Val Pro Asn Ser Asn Glu Arg Tyr

nlaIV  
 hgiCI  
 banI scrFI  
 mspI ecoRII  
 bsrI hpaII bstNI ddeI bsmI bsmal  
 1630 TAC GGC TAC ACT GGG GCT TTC CGG TGC CTG GCT GAG AAT GCT GGA GAC  
 526 Tyr Gly Tyr Thr Gly Ala Phe Arg Cys Leu Ala Glu Asn Ala Gly Asp  
 1678 GTT GCA TTT GTG AAA GAT GTC ACT GTC TTG CAG AAC ACT GAT GGA AAT  
 542 Val Ala Phe Val Lys Asp Val Thr Val Leu Gln Asn Thr Asp Gly Asn

fnu4HI  
 bbvI  
 hinPI  
 hhaI  
 mnlI nlaIII ddeI aluI  
 1726 AAC AAT GAG GCA TGG GCT AAG GAT TTG AAG CTG GCA GAC TTT GCG CTG  
 558 Asn Asn Glu Ala Trp Ala Lys Asp Leu Lys Leu Ala Asp Phe Ala Leu

taqI fnu4HI  
 mnlI bbvI  
 bglI ddeI aluI  
 1774 CTG TGC CTC GAT GGC AAA CGG AAG CCT GTG ACT GAG GCT AGA AGC TGC  
 574 Leu Cys Leu Asp Gly Lys Arg Lys Pro Val Thr Glu Ala Arg Ser Cys

sau96I  
 nlaIV  
 nlaIII  
 styI haeIII  
 ncoI asuI hinfI nlaIII bsmal foki  
 1822 CAT CTT GCC ATG GCC CCG AAT CAT GCC GTG GTG TCT CGG ATG GAT AAG  
 590 His Leu Ala Met Ala Pro Asn His Ala Val Val Ser Arg Met Asp Lys

fnu4HI  
 ecoNI alwNI bbvI  
 1870 GTG GAA CGC CTG AAA CAG GTG CTG CTC CAC CAA CAG GCT AAA TTT GGG  
 606 Val Glu Arg Leu Lys Gln Val Leu Leu His Gln Gln Ala Lys Phe Gly

sau3AI  
 mboI mspI  
 dpnI hpaII  
 xhoII scrFI  
 bstYI nciI  
 alwI cauII bsrI  
 1919 AGA AAT GGA TCT GAC TGC CCG GAC AAG TTT TGC TTA TTC CAG TCT GAA  
 622 Arg Asn Gly Ser Asp Cys Pro Asp Lys Phe Cys Leu Phe Gln Ser Glu

FIG.-1F

1966 ACC AAA AAC CTT CTG TTC AAT GAC AAC ACT GAG TGT CTG GCC AGA CTC  
 638 Thr Lys Asn Leu Leu Phe Asn Asp Asn Thr Glu Cys Leu Ala Arg Leu

2014 CAT GGC AAA ACA ACA TAT GAA AAA TAT TTG GGA CCA CAG TAT GTC GCA  
 654 His Gly Lys Thr Thr Tyr Glu Lys Tyr Leu Gly Pro Gln Tyr Val Ala

2062 GGC ATT ACT AAT CGT AAA AAG TGC TCA ACC TCC CCC CTC CTG GAA GCC  
 670 Gly Ile Thr Asn Leu Lys Lys Cys Ser Thr Ser Pro Leu Leu Glu Ala

2110 TGT GAA TTC CTC AGG AAG TAA AACCGAAGAA GATGGCCAG CTCCCCAAGA  
 685 Cys Glu Phe Leu Arg Lys DC\*

2161 AAGCCTCAGC CATTCACTGC CCCAGCTCT TCTCCCCAGG TGTGTTGGGG CCTTGGCTCC

2221 CCTGCTGAAG GTGGGGATTG CCCATCCATC TGCTTACAAT TCCCTGCTGT CGTCTTAGCA

2281 AGAAGTAAAA TGAGAAATTT TGTGTGATATT CAAAAAAA

>LENGTH: 2319

FIG.-1G

OK to  
substitute  
AMH  
8/27/99  
see paper  
#8

nlaIII                      nlaIV                      scrFI  
 sphI                      hgiCI                      ecoRII  
 rsal                      nspCIx                      banI                      bstNI  
 1246 TAT GTG TAC ACT GCA TGC AAA TGT GGT TTG GTG CCT GTC CTG GCA GAG  
 398 Tyr Val Tyr Thr Ala Cys Lys Cys Gly Leu Val Pro Val Leu Ala Glu

sau3AI  
 mboI  
 dpnI  
 alwI  
 1294 AAC TAC AAA TCC CAA CAA AGC AGT GAC CCT GAT CCT AAC TGT GTG GAT  
 414 Asn Tyr Lys Ser Gln Gln Ser Ser Asp Pro Asp Pro Asn Cys Val Asp

sau3AI  
 mboI  
 dpnI  
 ecoNI                      ecoRV  
 1342 AGA CCT GTG GAA GGA TAT CTT GCT GTG GCG GTG GTT AGG AGA TCA GAC  
 430 Arg Pro Val Glu Gly Tyr Leu Ala Val Ala Val Val Arg Arg Ser Asp

scrFI  
 ecoRII  
 bstNI  
 1390 ACT AGC CTT ACC TGG AAC TCT GTG AAA GGC AAG AAG TCC TGC CAC ACC  
 446 Thr Ser Leu Thr Trp Asn Ser Val Lys Gly Lys Lys Ser Cys His Thr

haeIII  
 nlaIII  
 styI sau96I                      mboII  
 ncoI asuI                      earI  
 pstI  
 1438 GCC GTG GAC AGG ACT GCA GGC TGG AAT ATC CCC ATG GGC CTG CTC TTC  
 462 Ala Val Asp Arg Thr Ala Gly Trp Asn Ile Pro Met Gly Leu Leu Phe

nlaIV  
 hgiIII  
 bsp1286  
 banII                      sspI                      aluI bsp1286  
 1486 AAC CAG ACG GGC TCC TGC AAA TTT GAT GAA TAT TTC AGT CAA AGC TGT  
 478 Asn Gln Thr Gly Ser Cys Lys Phe Asp Glu Tyr Phe Ser Gln Ser Cys

sau3AI  
 mboI  
 DpnI  
 scrFI                      xhoII  
 ecoRII                      bstYI  
 bstNI                      avaI                      bglII                      hgiAI  
 bsp1286  
 1534 GCC CCT GGG TCT GAC CCG AGA TCT AAT CTC TGT GCT CTG TGT ATT GGC  
 484 Ala Pro Gly Ser Asp Pro Arg Ser Asn Leu Cys Ala Leu Cys Ile Gly

FIG.-1E